

centi-vernicosus, suprâ membranulâ crenulatâ et ab insertione pinnularum utrinque decurrente manifestè *appendiculatus*; pinnulæ mediæ *ovatæ* inæquilaterales, superiores oblongæ et basi obliquè cuneatæ, impar crenulata, omnes obtusæ *obtusè*que crenatæ.

A. HAROVII, frondes *decumbentes* saxoque fibrillis tenuissimis adfixæ, *glabræ*, impari-pinnatæ; stipes nigrescenti-vernicosus, suprâ membranulâ obsoletâ et ab insertione pinnularum utrinque decurrente *appendiculatus*; pinnulæ mediæ *hastato-rhomboidæ*, *trilobatæ*, superiores oblongæ basi obliquè attenuatæ vel cuneatæ, impar pinnatifida, omnes obtusæ sed *acutè* dentatæ.

A. *viride*, frondes *erecto-patulæ*, *glabræ*, impari-pinnatæ; stipes viridis, suprâ canaliculatus, *inappendiculatus*; pinnulæ mediæ ferè omnes ovato-rhomboidæ, inæquilaterales, impar crenulata incisa, omnes obtusæ *obtusè*que crenulatæ.

A. *Petrarchæ*, frondes *erecto-patulæ*, *glanduloso-villosæ*, impari-pinnatæ; stipes obscurè nigrescens, suprâ applanato-canaliculatus, *inappendiculatus*; pinnulæ mediæ *oblongæ* basi obliquè truncatæ vel *cuneatæ* et inde valdè inæquilaterales, pinnatifidæ, lobulis obtusis inæqualiter crenulatis, superiores supra rachin decurrentes.

### MISCELLANEOUS.

ON THE PRESENCE OF THEINE IN THE LEAVES OF ILEX PARAGUYENSIS.

RECENT chemical researches have proved that the bitter tonic substance called *Theine*, found in the leaves of tea, is identical with *Caffeine*, obtained from the seeds of coffee. On this subject Liebig remarks—"We shall never, certainly, be able to discover how men were led to the use of the hot infusion of the leaves of a certain shrub (tea), or of a decoction of certain roasted seeds (coffee). Some cause there must be, which would explain how the practice has become a necessary of life to whole nations. But it is surely still more remarkable that the beneficial effects of both plants on the health must be ascribed to one and the same substance, the presence of which in two vegetables, belonging to different natural families and the produce of different quarters of the globe, could hardly have presented itself to the boldest imagination."

It is curious to remark, that a beverage called Guarana, used by the people on the banks of the Amazon, and in all probability procured from the leaves of *Paullinia sorbilis*, should yield a crystalline matter also identical with Theine, and that Theobromine, or the principle yielded by chocolate, should be in many respects analogous. Mr. John Stenhouse of Glasgow has recently detected Theine in the leaves of the *Ilex paraguayensis*, Yerba Maté, or Paraguay Tea, which is the common beverage of a large portion of the inhabitants of South America.

This is a fact of great interest, when taken in connexion with the previous discoveries above alluded to, as tending to show that the same principle is found in many of those substances which are employed by mankind in different parts of the world to furnish a tonic and refreshing beverage. Theine is procured easily according to Mr. Stenhouse, by making an infusion of tea, precipitating by acetate of lead, filtering, evaporating the clear solution to a thickish consistence, and then subliming (?) from a sand-bath. In this way he has been able to procure  $1\frac{1}{2}$  per cent. from Assam tea without the use of

alcohol or æther. The best test for Theine is ammonia, which, when added and heated to dryness, gives a beautiful rose-colour precisely similar to murexide. From the facility with which Theine is obtained and its tonic qualities, it is probable that it may be ere long used medicinally as a substitute for quinine and other remedial agents of a similar nature.—J. H. B.

## SULA MELANURA.

“In our ornithological memoranda we neglected to state that during our stay at St. Kilda, a black-tailed Solan Goose was mentioned to us as being occasionally seen intermingled with the other and more common kind. We at first regarded this as an accidental variety, but we have since recalled to mind that there is a distinct species described by naturalists under the title of *Pelecanus melanurus*, so called from the character in question. We believe that this is the first ascertained instance of its occurrence in any of the British Islands.”—*J. Wilson, Voy. round West. Isles*, vol. ii. p. 113, note.

## CAPTURE OF BOTTLE-NOSED WHALES.

There has been recently a considerable capture of bottle-nose whales at the island of Eday, amounting to between sixty and seventy. They were generally of fair dimensions, about fourteen feet long on an average; and on being sold by public roup on the Monday following, brought 146*l.*—*Inverness Courier*.

## NOTE ON PAGURUS PRIDEAUXII.

There is an omission in my notice of this species in the last Number of the ‘Annals,’ p. 103, which, in consequence of the obscurity thereby occasioned, is perhaps worth correcting. The comment on Dr. Leach’s observations should have been, not to the effect that it was singular that *P. Prideauxii* inhabits so many different species of shells, but, that there should be no allusion to its connexion with *Adamsia* (*Actinia*) *maculata*, with which species I have always found it associated. I had already mentioned in this Journal (vol. v. p. 251) the occurrence of the *Pagurus* in *Trochi* [*T. cinereus*, &c.] and *Bulla lignaria*:—to these may now be added *Buccinum undatum* and *Natica Alderi*. The smaller shells thus resorted to, as the last-named, and *Trochus cinereus*, may be said to have merely formed the apex of the tenement, as “the thin horny expansion attached to the aperture of the shells, and forming as it were an extension of the body-whorl in a spiral form\*,” constituted from one-half to two-thirds of the entire habitation of the crab.

Dr. Coldstream, in treating of the *Actinia maculata* obtained by him at “Torbay, and in Rothsay and Kames bays in Bute,” remarks, that the shell which it covered was “always found inhabited by a variety of the hermit-crab.” The “variety” thus alluded to was probably *P. Prideauxii*. By Dr. Coldstream and also by myself, the *Actinia* and *Pagurus* under consideration have always been found associated. Dr. Leach makes no mention of their connexion; and Mr. Edw. Forbes states that not a single specimen of the *Actinia* taken

\* Dr. Coldstream in *Edin. New Phil. Journ.* vol. ix., and copied in Johnston’s *British Zoophytes*, p. 219.

in the course of a season by him about the Isle of Man "had either hermit-crab or horny disk." (Annals, vol. v. p. 183.) It would thus appear, that on the British coasts this strange companionship is not invariably constant. By Dugès the two species have been found associated on the coast of France.

Dr. Coldstream enters pretty fully into the subject of the "horny expansion," and after speculating upon its formation, thinks that it is probably "produced by the *Actinia*." Opposed to this view however is the fact, that shells possessing the horny expansion are frequently dredged in localities where the *Actinia* was never met with—and where the *P. Prideauxii* never occurred. I have often found them tenanted instead by *Pagurus Bernhardus*.

On examining such shells with horny expansions as are preserved in my cabinet, I find the expansions to consist simply of a development, or continuation of the *Alcyonium echinatum* (and which it occurred to Dr. Coldstream might be the case) beyond the shell itself after this is covered, or nearly so, by the zoophyte. May not this *Alcyonium* be selected by the *Actinia* as a base upon which to fix itself, on account of its papillary eminences thereby enabling it—the parasite—to retain a firmer hold or "seat"?—WM. THOMPSON.

Belfast, Feb. 10, 1843.

METEOROLOGICAL OBSERVATIONS FOR JAN. 1843.

*Chiswick*.—January 1. Clear and fine. 2, 3. Frosty: fine. 4. Rain: clear. 5. Clear: rain and sleet. 6. Frosty: overcast. 7, 8. Cloudy. 9. Clear and frosty. 10. Stormy and wet: very boisterous. 11. Clear and frosty: very fine. 12. Hazy: clear: hurricane at night. 13. Stormy and wet: very boisterous: barometer at noon exceedingly low. 14. Clear and windy: densely overcast: snow at night. 15. Cloudy: clear and frosty. 16. Cold and dry: fine. 17. Overcast. 18. Hazy: dense fog. 19. Dense fog. 20—22. Hazy. 23. Very fine: overcast: stormy, with rain at night. 24. Overcast. 25. Very fine. 26, 27. Cloudy. 28. Cloudy: clear and fine. 29. Overcast. 30. Very fine. 31. Uniformly overcast: stormy, with rain at night.—Mean temperature of the month 3° above the average. The barometer on the 13th was lower than it has been observed in the neighbourhood of London since 1821.

*Boston*.—Jan. 1—3. Fine. 4. Rain. 5. Cloudy: rain and snow early A.M. 6. Fine. 7. Cloudy. 8. Cloudy: rain early A.M. 9. Fine. 10. Windy: rain early A.M.: stormy P.M., with snow. 11. Windy. 12. Cloudy: rain P.M. 13. Stormy: rain early A.M. (barometer 2 P.M. 27°·80): rain P.M.: stormy night. 14. Stormy: snow P.M. 15—18. Cloudy. 19. Foggy. 20—23. Cloudy. 24. Cloudy: rain early A.M. 25. Fine. 26. Cloudy: rain early A.M. 27. Cloudy. 28. Windy. 29. Cloudy. 30. Cloudy: stormy P.M. 31. Fine.

*Sandwick Manse, Orkney*.—Jan. 1. Hail-showers. 2. Snow. 3. Cloudy. 4. Showers: large hail—broke windows. 5. Hail-showers. 6. Showers. 7. Hail-showers—broke windows: thunder and lightning. 8. Snow-showers and hail. 9. Snow-showers: rain. 10. Snow-showers. 11. Snowing at noon: clear at night. 12. Clear: frost and snow. 13. Snow: thaw-showers. 14. Frost: thaw-showers. 15. Showers. 16. Showers: cloudy. 17. Drizzle. 18. Cloudy: drizzle. 19. Showers: clear. 20—22. Clear. 23. Clear: drops. 24. Cloudy. 25. Cloudy: drizzle. 26. Clear: rain. 27. Rain: showers. 28. Drizzle: showers. 29—31. Showers.

*Applegarth Manse, Dumfries-shire*.—Jan. 1. Frost A.M.: shower: frost P.M. 2. Frost A.M.: frost P.M. 3. Showers. 4. Snow and rain. 5. Frost: high wind. 6. Drizzling rain. 7. Rain and wind. 8. Snow: frost. 9. Snow: rain: wind. 10. Snow: frost. 11. Frost: lunar halo. 12. Hard frost. 13—15. Frost: drifting snow. 16. Thaw A.M.: frost P.M. 17, 18. Thaw: rain. 19. Thick fog and thaw. 20. Fair, but cloudy. 21. Fair A.M.: drizzly P.M. 22. Rain early A.M.: cleared. 23. Rain. 24. Fair, but misty. 25. Rain P.M. 26. Wet A.M. 27. Wet P.M. 28. Storm of wind and rain. 29. Wet and stormy. 30. Heavy showers. 31. Rain.

